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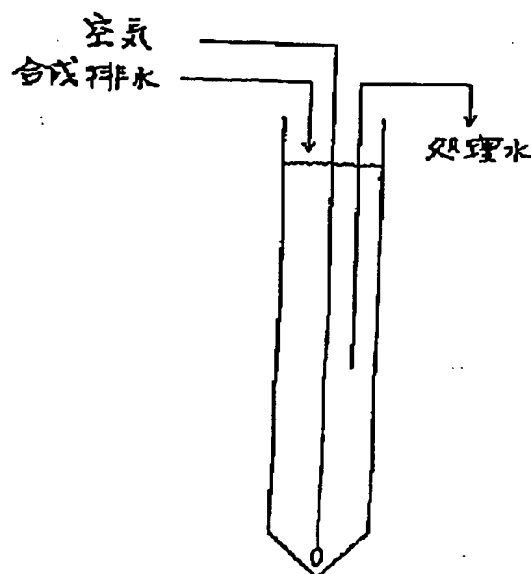
APPLICATION DATE : 12-02-92
APPLICATION NUMBER : 04073622

APPLICANT : AGENCY OF IND SCIENCE & TECHNOLOGY

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TITLE : REACTION METHOD FOR IMMOBILIZED MICROORGANISM



ABSTRACT : PURPOSE: To accomplish treatment with immobilized microorganisms economically in high efficiency by contact with a reactive substrate of such immobilized microorganisms obtained by dehydrating at a specified temperature microorganisms either cultured or collected from the natural world followed by drying.

CONSTITUTION: Microorganisms selected from bacteria representing aerobic microorganism treatment sludge such as activated sludge (e.g. Aerobacter), acidic bacteria representing anaerobic bacteria treatment sludge such as for methane fermentation, and methanogen (methane bacteria), are dehydrated at $\leq 70^{\circ}\text{C}$ and dried in a solid form to obtain immobilized microbial cells with a water content of $\leq 85\text{wt.}\%$. Thence, the microbial cells are cut or ground to uniformize granular size into immobilized microorganisms 1-5mm in granular diameter. A reactor is then packed with the microorganisms at a specified packing rate followed by introducing a reactive substrate such as synthetic effluent into the reactor to effect reaction while feeding air to treat the effluent, thus giving desired treated water.

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